


Amendments to the Claims

Please amend the above-identified application pursuant to the revised practice set forth in the Notice entitled "Amendments in a Revised Format Now Permitted" and published in the Official Gazette on February 5, 2003. All claims being currently amended are submitted with markings to indicate the changes that have been made relative to the immediate prior version of the claims. The changes in the amended claims are shown by strikethrough (for deleted matter) or underlining (for added matter).

1. (Currently Amended) An encoder for encoding a sequence of video data, said encoder comprising:

 storage within a quantizer for holding multiple sets of quantization matrix tables at the same time, wherein said multiple sets of quantization matrix tables comprise separate, independent sets of quantization matrix tables, each set of quantization matrix tables comprising at least one intra matrix table and at least one non-intra matrix table;

said a quantizer for quantizing said sequence of video data in a single pass using at least one set of quantization matrix tables of said multiple sets of quantization matrix tables; and

means for dynamically switching in real time said quantizer during said single pass quantizing from using said one set of quantization matrix tables to using another set of quantization matrix tables of said multiple sets of quantization matrix tables, wherein said dynamically switching occurs without requiring stopping of the encoding process; and-

means for allowing updating of said one set of quantization matrix tables of said multiple sets of quantization matrix tables within said quantizer while said another set of quantization matrix tables is in use by said quantizer.

2. (Original) The encoder of claim 1, wherein said means for dynamically switching comprises means for switching said quantizer from using said one set of quantizer matrix tables to using said another set of quantizer matrix tables at a picture boundary of said sequence of video data.

3. (Original) The encoder of claim 2, wherein said means for switching said quantizer at said picture boundary comprises means for switching from said one set of quantizer matrix tables to said another set of quantizer matrix tables without delaying encoding of said sequence of video data by said encoder.

4. (Original) The encoder of claim 3, wherein said means for dynamically switching further comprises a table set register within said quantizer adapted to control said switching of said quantizer from said one set of quantization matrix tables to said another set of quantization matrix tables.

5. (Original) The encoder of claim 1, wherein at least one table of said one set of quantization matrix tables comprises a default quantization matrix table pursuant to MPEG standard.

6. (Original) The encoder of claim 1, wherein multiple tables of said one set of quantization matrix tables comprise default quantization matrix tables pursuant to MPEG standard.

7. (Original) The encoder of claim 1, wherein at least one table of said another set of quantization matrix tables comprises a user's custom quantization matrix table.

8. (Original) The encoder of claim 1, wherein multiple tables of said another set of quantization matrix tables comprises a user's custom quantization matrix tables.

9. (Original) The encoder of claim 1, wherein each set of quantization matrix tables of said multiple sets of quantization matrix tables comprises at least one quantization matrix table, each quantization matrix table of said at least one quantization matrix table comprising one of a default quantization matrix table pursuant to MPEG standard or a user's custom quantization matrix table.

10. (Original) The encoder of claim 1, wherein each set of quantization matrix tables comprises an intra luminance table and a non-intra luminance table.

11. (Original) The encoder of claim 1, wherein each set of said multiple sets of quantization matrix tables comprises an intra luminance table, a non-intra luminance table, an intra chrominance table, and a non-intra chrominance table.

12. (Original) The encoder of claim 1, further comprising means for dynamically changing quantization matrix tables of a presently unused set of quantization matrix tables of said multiple sets of quantization matrix tables while quantizing said sequence of video data using said one set of quantization matrix tables or said another set of quantization matrix tables.

13. (Original) The encoder of claim 1, further comprising a compressed store interface for outputting a compressed bitstream produced by said encoder from said sequence of video data, said compressed store interface including means for dynamically outputting a quantization matrix extension start code in said compressed bitstream upon switching of said quantizer from using said one set of quantization matrix tables to using said another set of quantization matrix tables.

14. (Original) The encoder of claim 13, wherein said compressed store interface further comprises storage for also holding said multiple sets of quantization matrix tables.

15. (Original) The encoder of claim 13, wherein said means for dynamically outputting said quantization matrix extension start code comprises means for outputting said

another set of quantization matrix tables in said compressed bitstream upon said quantizer switching from said one set of quantization matrix tables to said another set of quantization matrix tables.

16. (Original) The encoder of claim 13, wherein said means for dynamically outputting comprises means for outputting said quantization matrix extension start code in said compressed bitstream without pausing said encoding of said sequence of video data by said encoder.

17. (Original) The encoder of claim 13, further comprising means for changing quantization matrix tables in a presently unused set of said multiple sets of quantization matrix tables while said quantizer is quantizing said sequence of video data using said one set of quantization matrix tables or said another set of quantization matrix tables.

18. (Currently Amended) A method for encoding a sequence of video data, said method comprising:

providing storage within a quantizer of an encoder for holding multiple sets of quantization matrix tables at the same time, wherein said multiple sets of quantization matrix tables comprise separate, independent sets of quantization matrix tables, each set of quantization matrix tables comprising at least one intra matrix table and at least one non-intra matrix table;

quantizing the sequence of video data in a single pass using at least one set of quantization matrix tables of said multiple sets of quantization matrix tables; and

dynamically switching in real time said quantizing during said single pass from using said one set of quantization matrix tables to using another set of quantization matrix tables of said multiple sets of quantization matrix tables, wherein said dynamically switching occurs without requiring stopping of the encoding process; and

allowing updating of said one set of quantization matrix tables of said multiple sets of quantization matrix tables within said quantizer while said another set of quantization matrix tables is in use by said quantizer.

19. (Original) The method of claim 18, wherein said dynamically switching comprises switching said quantizing from using said one set of quantizer matrix tables to using said another set of quantizer matrix tables at a picture boundary of said sequence of video data.

20. (Original) The method of claim 19, wherein said switching of said quantizing at said picture boundary comprises switching from said one set of quantizer matrix tables to said another set of quantizer matrix tables without delaying encoding of said sequence of video data.

21. (Original) The method of claim 18, wherein at least one table of said one set of quantization matrix tables comprises a default quantization matrix table pursuant to MPEG standard or a user's custom quantization matrix table.

22. (Original) The method of claim 18, wherein at least one table of said another set of quantization matrix tables comprises a default quantization matrix table pursuant to MPEG standard or a user's custom quantization matrix table.

23. (Original) The method of claim 18, wherein each set of said multiple sets of quantization matrix tables comprises an intra luminance table and a non-intra luminance table.

24. (Original) The method of claim 18, wherein each set of said multiple sets of quantization matrix tables comprises an intra luminance table, a non-intra luminance table, an intra chrominance table, and a non-intra chrominance table.

25. (Original) The method of claim 18, further comprising dynamically changing quantization matrix tables of a presently unused set of quantization matrix tables of said multiple

sets of quantization matrix tables while quantizing said sequence of video data using said one set of quantization matrix tables or said another set of quantization matrix tables.

26. (Original) The method of claim 18, further comprising producing a compressed bitstream employing a compressed store interface, said producing comprising dynamically outputting a quantization matrix extension start code in said compressed bitstream upon said switching from said one set of quantization matrix tables to said another set of quantization matrix tables.

27. (Original) The method of claim 26, wherein said dynamically outputting comprises outputting said quantization matrix extension start code in said compressed bitstream without pausing said encoding of said sequence of video data.

28. (Original) The method of claim 26, further comprising changing quantization matrix tables in a presently unused set of said multiple sets of quantization matrix tables while quantizing said sequence of video data using said one set of quantization matrix tables or said another set of quantization matrix tables.

29. (Currently Amended) An article of manufacture comprising:

a computer program product comprising computer usable medium having computer readable program code means therein for use in encoding a sequence of video data, said computer readable program code means in said computer program product comprising:

computer readable program code means for causing a computer to effect storing within a quantizer multiple sets of quantization matrix tables at the same time, wherein said multiple sets of quantization matrix tables comprise separate, independent sets of quantization matrix tables, each set of quantization matrix

tables comprising at least one intra matrix table and at least one non-intra matrix table;

computer readable program code means for causing a computer to effect quantizing the sequence of video data in a single pass using at least one set of quantization matrix tables of said multiple sets of quantization matrix tables; and

computer readable program code means for causing a computer to effect dynamically switching in real time said quantizing during said single pass from using said one set of quantization matrix tables to using another set of quantization matrix tables of said multiple sets of quantization matrix tables, wherein said dynamically switching occurs without requiring stopping of the encoding process; and

computer readable program code means for causing a computer to effect allowing updating of said one set of quantization matrix tables of said multiple sets of quantization matrix tables within said quantizer while said another set of quantization matrix tables is in use by said quantizer.

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